

Professional and Managerial Branch  
Engineering Group  
Registered Engineer Series

INDUSTRIAL ENGINEER III

04/94

### *Summary*

Under direction, as functional head of an industrial engineering staff unit manage and independently execute technical aspects of programs and associated practices in compliance with public works policies.

### *Typical Duties*

Initiate, and coordinate or conduct engineering studies of economy of operations and services of an industrial nature to. Involves: discussing general objectives with own and other managers, and defining project parameters and data required; developing and applying new and adapted work sampling and measurement techniques and procedures; making engineering, financial and statistical calculations pertaining to facility layout, and work methods; investigating labor, equipment and facility use and location including review of engineering designs, site plans, floor layouts, technical and job specifications, process flow charts, work schedules, organization charts, operating and capital budgets, cost analyses and other reports or records; identifying and assessing effects of inefficiencies such as effort duplication, and material or utilities waste.

Approve and coordinate implementation, or establish standards for or recommend improvements in quality and cost effectiveness of work methods, and labor, facilities, equipment and materials utilization, as authorized. Involves: making presentations and conferring with management and engineering staff regarding significance of findings, feasibility to alternatives, planning to introduce new or corrective procedures, and overall suitability of results; restructuring job duties, reorganizing work flow, relocating work stations and equipment, and requesting equipment and materials purchases, disposal and modifications; preparing, assembling, issuing and affixing professional engineering seals to engineering drawings and technical specifications embracing facility and work layouts, safety, vehicle, underground fuel storage tanks and other equipment designs and operations, parts and supplies attributes, and fuel and hazardous material dispensing, monitoring and storage methods; developing, installing, using and maintaining multi-purpose automated management information system for internal and inter-departmental operations control and financial planning; training and consulting with industrial operations and services supervisors and personnel in new and changed safe work practices, equipment and facilities use and maintenance, material handling and movement, and solving related problems.

Ensure compliance with federal, state and local engineering, environmental and other applicable statutes pertaining to City public works and equipment operations, and allied services. Involves: overseeing activities including, but not limited to, on-going hazardous waste storage and movement, and underground storage tank installation and removal; conducting or participating in meetings with commissions, regulatory agencies, businesses or other organizations and the general public in dealing with issues affecting continuing and special City projects.

Supervise technical or engineering personnel as assigned. Involves: determining and preparing work schedules, and expediting work flow; assigning duties, issuing written and oral instructions and checking work for exactness, neatness, and conformance to policies and procedures; guiding subordinate to overcome difficulties encountered in performing duties; evaluating performance, coaching, and arranging for or conducting training and development activities; enforcing personnel rules and regulations, standards of conduct, work attendance and safe working practices; maintaining supervisor-subordinate harmony and resolving grievances; making recommendations on personnel changes which includes interviewing applicants.

Direct or perform miscellaneous related engineering and administrative duties as required. Involves: preparing incidental designs, and legally required and technically complex composite reports from individual reports of subordinates; participating in budget request preparation and documentation, and administration of adopted budget in assigned area of engineering responsibility; establishing and maintaining public works industrial engineering standards and project records.

### *Minimum Qualifications*

Graduation from an accredited college or university with a Bachelor's of Science degree in Industrial Engineering and

four years of progressively responsible professional industrial engineering experience, or an equivalent combination of training and experience.

**Knowledge, Skills and Abilities:** Considerable knowledge of: industrial and human engineering principles, theories and practices as applied to a municipal setting; work methods, tools, equipment, facilities and safety practices used in public works operations and industrial services; operation and care of personal computers and associated peripherals, and computer-aided industrial engineering and allied work processing, spreadsheet and data base software; cost and work efficiency determination techniques. Good knowledge of: applicable City, State and Federal laws, regulations and policies affecting Public Works activities such as of the Texas Engineering Practice Act and Texas Natural Resources Conservation Commission; supervisory methods and personnel procedures.

**Ability to:** read, analyze and interpret an extensive assortment of common scientific literature, technical instructions, financial reports, legal documents, and other pertinent information in mathematical, diagram or other forms dealing with numerous abstract and concrete variables; establish and maintain cooperative working relationships in person, by telephone and through correspondence with employees, consultants, regulatory or other governmental agency representatives, City officials and other departments, and the business community and general public in order to gain concurrence to solve non-routine problems involving significant differences of opinion or controversy; communicate clearly, concisely and persuasively to prepare comprehensive technical reports for publication in prescribed style and format, and speeches presenting and explaining issues and recommendations of similar nature to top management and governing boards, and public and regulatory groups; define industrial engineering problems of an unprecedented nature, plan research projects which involves extensively adapting generally applicable guidelines to fit unusual or complex situations; estimate costs of and direct or conduct data collecting and compiling; apply advanced mathematical concepts such as exponents, logarithms, quadratic equations, and permutations, and mathematical operations to such tasks as frequency distribution, determination of test reliability and validity, analysis of variance, correlation techniques, sampling theory and factor analysis; ascertain significance and interrelationships of facts and circumstances, and evaluate alternatives in terms of impact on other major programs, situations, organizations, organizations or future developments and draw valid conclusions about findings to develop new or extend accepted methods and techniques; firmly, justly and impartially exercise delegated supervisory authority; lead and motivate subordinates.

**Skill in:** operating personal computer, motor vehicle, standard drafting instruments; time and distance measuring devices.

#### *Physical Requirements and Working Conditions*

Frequently work indoors in industrial shop settings to observe operations and outdoors at construction work sites or public works facilities to conduct inspections which involves moving about on uneven terrain and exposure to other adverse field conditions.

#### *Licenses and Certifications:*

Registration as Professional Engineer in the United States required at time of appointment. Registration as Professional Engineer in Texas required within one (1) year following appointment. Valid Texas Class "C" Driver's License or equivalent issued by another state required by time of appointment.

#### *Special Requirements:*

Be on call during non-working hours and work mandatory overtime to respond to Public Works emergencies as necessary.

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Director of Personnel

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Department Head